

Zoe Krauss

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EDUCATION

Ph.D. University of Washington, School of Oceanography <i>Marine Geology & Geophysics; Advisor: William S. D. Wilcock</i>	<i>Anticipated 2025</i>
M.S. University of Washington, School of Oceanography	2021
B.A. Colorado College <i>Physics major: Geophysics emphasis; Magna cum laude, Phi Beta Kappa</i>	2019

PUBLICATIONS

Krauss, Z., Wilcock, W.S., & Baillard, C. (in prep). A single-station earthquake catalog for the Endeavour segment of the Juan de Fuca ridge (2011-2016): challenges and implications for the spreading cycle.

Evans, G., **Krauss, Z.**, Lilley, M., Seyfried Jr., W., Wilcock, W.S.D. (in prep). Tectonically Induced Changes in Vent Fluid Compositions and Metal Concentrations at Main Endeavour Field, Northeast Pacific Ocean.

Krauss, Z., Ni, Y., Henderson, S., & Denolle, M. (2023). Seismology in the cloud: guidance for the individual researcher. *Seismica*, 2(2). <https://doi.org/10.26443/seismica.v2i2.979>.

Krauss, Z., Wilcock, W. S., Heesemann, M., Schlesinger, A., Kukovica, J., & Farrugia, J. J. (2023). A Long-Term Earthquake Catalog for the Endeavour Segment: Constraints on the Extensional Cycle and Evidence for Hydrothermal Venting Supported by Propagating Rifts. *Journal of Geophysical Research: Solid Earth*, 128(2), e2022JB025662.

Krauss, Z., & Menke, W. (2020). The Northern Gulf Anomaly: P-and S-wave travel time delays illuminate a strong thermal feature beneath the Northern Gulf of Mexico. *Earth and Planetary Science Letters*, 534, 116102.

Almendros, J., **et al.** (2020). BRAVOSEIS: Geophysical investigation of rifting and volcanism in the Bransfield strait, Antarctica. *Journal of South American Earth Sciences* 104: 102834.

Borella, J., Quigley, M., **Krauss, Z.**, Lincoln, K., Attanayake, J., Stamp, L., Lanman, H., Levine, S., Hampton, S. & Gravley, D. (2019). Geologic and geomorphic controls on rockfall hazard: how well do past rockfalls predict future distributions?. *Natural Hazards and Earth System Sciences*, 19(10), 2249-2280.

WHITE PAPERS

Krauss, Z., Eilon, Z., Parnell-Turner, R., Janiszewski, H., Worthington, L., Kidiwela, M., & Brunsvik., B. (2021) Call to expand ocean bottom seismograph (OBS) facilities and instrument pool for ambitious Rift2Ridge science. 2021 Rift2Ridge Workshop.

INVITED TALKS	InterRidge Webinar Series, 2024 (seminar) <i>Near-real-time Seismic Monitoring of a Mid-ocean Ridge.</i>	
	AGU Fall Meeting, San Francisco, CA, 2023 (talk) <i>Near-real-time Seismic Monitoring of Tectonically-Influenced Mid-ocean Ridge Hydrothermal Vent Fields.</i>	
SEMINAR TALKS	<i>Understanding the marine seismoacoustic noise field near Cascadia's deformation front: does tectonic tremor occur at shallow depths?</i> Seismolunch Seminar, University of Washington. (2024)	
	<i>Slow slip in shallow Cascadia: looking for tremor on ocean bottom seismometers.</i> Marine Geology and Geophysics Seminar, University of Washington. (2023)	
	<i>Long-term seismic data unlocks the story of a mid-ocean ridge.</i> Ocean Networks Canada Lunch and Learn, general audience. (2023)	
	<i>Long-term and real-time seismic monitoring of a mid-ocean ridge.</i> Pacific Geoscience Center-University of Victoria Seminar. (2023)	
	<i>Machine-learning-based detection of offshore earthquakes.</i> Data Science Seminar, University of Washington. (2022)	
	<i>Building and interpreting an earthquake catalog for the Endeavour segment.</i> Seismolunch Seminar and the Marine Geology and Geophysics Seminar, University of Washington, virtual. (2021)	
	<i>Deep structure of the Northern Gulf of Mexico from Seismic Data.</i> USGS Menlo Park and Stanford Reading Group, virtual. (Invited, 2021)	
AWARDS	SSA Annual Meeting Student Presentation Award	2024
	AGU Outstanding Student Presentation Award (OSPA)	2023
	NDSEG Conference Exemplary Poster Award	2022
	AGU Outstanding Student Presentation Award (OSPA)	2021
	National Defense Science and Engineering Fellowship (NDSEG)	2020
	<i>Full tuition and annual \$38,000 stipend support for 3 years</i> <i>Travel allowance of \$5,000</i>	
	NSF Graduate Research Fellowship	2020
	<i>Declined in favor of the NDSEG</i>	
	ARCS Fellowship, University of Washington	2019
	<i>\$17,500 of additional support over 3 years</i>	
	NSF Graduate Research Fellowship, Honorable Mention	2019
	Association of Women Geoscientists Outstanding Student Award	2019
ADDITIONAL CONFERENCE PRESENTATIONS	Cowperthwaite Award for Excellence in Physics <i>Awarded by the Colorado College Physics Department</i>	2019
	SSA Annual Meeting, Anchorage, AK (talk) <i>Searching for Low-Amplitude Shallow Tectonic Tremor in Cascadia Using Buried Ocean Bottom Seismometers</i>	2024
	AGU Fall Meeting, San Francisco, CA (poster) <i>Offshore Seismic Signals of Deformation in the Shallow Cascadia Subduction Zone</i>	2023
	SSA Annual Meeting, San Juan, PR (poster)	2023

	<i>Constructing Cloud Resources for the Individual Researcher From the Ground Up: An Example of Earthquake Detection in the Cloud</i>	
	AGU Fall Meeting, Chicago, IL (poster) <i>Investigating microearthquake multiplets using ocean bottom seismometers in a mid-ocean ridge hydrothermal field</i>	2022
	NDSEG Fellows Conference, Boston, MA (poster and talk) <i>Using real-time offshore seismic observations to understand the seafloor spreading cycle</i>	2022
	SSA Annual Meeting, Bellevue, WA (poster) <i>Long-term Earthquake Catalog for the Endeavour Segment of the Juan De Fuca Ridge Highlights the Influence of Propagating Rifts on Hydrothermal Venting</i>	2022
	AGU Fall Meeting, virtual (talk) <i>Long-term earthquake patterns at the Endeavour Segment, Juan de Fuca Ridge</i>	2021
	Rift2Ridge Workshop, virtual (lightning talk) <i>Lessons from multiple decades of observations on the Endeavour Segment</i>	2021
	Marine Seismology Symposium, virtual (live short talk) <i>Building a Multidecadal Microearthquake Catalog for the Endeavour Segment of the Juan de Fuca Ridge</i>	2021
COMPUTATIONAL EXPERIENCE	<i>Proficient in Python and Matlab Experience with cloud computing (Azure), Git, Linux systems</i>	
& SUPPORT	University of Washington Azure Cloud Support \$5,000 of Azure cloud computing credits to use toward the documentation of time and cost scaling of seismic workflows.	2023
	University of Washington eScience Cloud ReproHack Week Chosen to work alongside Microsoft Azure cloud computing experts to migrate local workflows onto the cloud.	2022
	University of Washington Azure Cloud Support \$20,000 of Azure cloud computing credits to use towards the creation of earthquake catalogs using machine learning.	2022
	University of Washington eScience Incubator Program Accepted to work one-on-one with a professional data scientist for 10 weeks to create a machine-learning-based earthquake catalog curation workflow using cloud computing resources.	2022
ADDITIONAL ATTENDED MEETINGS	USGS Cascadia Subduction Zone Science Meeting, Seattle, WA	2023
	SZ4D Community Meeting, Houston, TX	2022
	USGS Cascadia Subduction Zone Science Meeting, Seattle, WA	2020
TEACHING AND MENTORSHIP	OCEAN 320: Coastal Oceanography Teaching assistant, University of Washington Co-led lab sessions, including some in Python Led office hours	2023

	Data Science in Oceanography Summer Program	2022
	Mentor, University of Washington	
	Prepared and led Python tutorials on introductory seismic analysis	
	Gave introductory lecture to Marine Geology and Geophysics	
	Served as mentor for an undergraduate project	
	OCEAN 201: Intro to Oceanography Lab	2021
	Teaching assistant, University of Washington, virtual due to COVID	
	Prepared lab experiments and reports	
	Graded ~40 lab reports per week	
	Co-led synchronous lab sessions	
FIELD EXPERIENCE	OBS redeployment at Axial Seamount, R/V Sally Ride	2023
	OBS deployment at Axial Seamount, R/V Langseth*	2022
	*Missed due to COVID emergency	
	DAS deployment on OOI cabled network, Pacific City, OR	2021
	OBS retrieval at Bransfield Strait, Antarctica, R/V Hesperides	2020
	Frontiers Abroad geology field camp, New Zealand	2017